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Claims 1-12 are currently pending. Accordingly, Applicant respectfully requests reconsideration of the outstanding rejections and allowance of all the claims pending in the present application.

On pages 2-4 of the Official Action, claims 1, 2, 6-8 and 10 were rejected under 35 U.S.C. § 102(b) as being anticipated by BROOME et al. (U.S. Patent No. 6,088,322).

On pages 4-6 of the Official Action, claims 1, 2 and 5-10 were rejected under 35 U.S.C. § 102(b) as being anticipated by YOO et al. (U.S. Patent No. 6,043,912).

On pages 6-7 of the Official Action, Claims 3, 4, 11 and 12 were rejected under 35 U.S.C. § 103(a) as being unpatentable over BROOME et al. and also under 35 U.S.C. § 103(a) as being unpatentable over YOO et al. In these rejections, the Examiner stated the position that selecting the specific recited absolute values of spherical aberration gap would have been an obvious exercise in discovering an optimum value of a result effective variable.

Applicant traverses each of the above rejections and submits that they are inappropriate with respect to the combination of features recited in each of Applicants claims. Accordingly, Applicant respectfully requests reconsideration and withdrawal of each of the outstanding rejections together with an indication of the allowability of all the claims pending in the present application, in due course. Such action is respectfully requested and is now believed to be appropriate and proper.

BROOM et al. (U.S. Patent No. 6,088,322)

Each of independent claims 1, 6 and 7 sets forth an objective lens which includes *an aspherical surface having a diffraction lens structure formed thereon*. Applicant submits that BROOME et al. lacks any disclosure of *an aspherical surface having a diffraction lens structure formed thereon*.

Based upon the comments on pages 2 and 8 of the Official Action, it appears that the Examiner has misinterpreted the teachings of BROOME et al. The embodiment depicted in Figure 5 of BROOME et al., which does indeed include an objective lens with two aspherical surfaces 21 and 22, as noted by the Examiner, does not include a diffraction lens structure on either surface of the objective lens. Rather, the embodiment of Figure 5 uses the aspherical shapes of the two aspherical surfaces 21 and 22 to compensate for the different wavelengths of light, and different thicknesses of cover layers, used for the CD and DVD format disks. Note column 4, line 1 through column 5, line 30.

However, the preferred embodiment of BROOME et al., which is depicted in Figures 8 and 12, provides a diffraction lens structure to compensate for the different wavelengths of light, and different thicknesses of cover layers, used for the CD and DVD format disks. Note column 5, lines 32-42. However, BROOME et al. only discloses providing such a diffraction lens structure on a spherical surface 122 of an objective lens.

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Note column 5, lines 43-49 and column 6, lines 56 and 57. BROOME et al. explains at column 5, lines 47-49, that there is no need to provide the diffraction lens structure on an aspherical surface in their system, since the diffractive lens surface itself provides aspheric correction of spherical aberration.

Accordingly, Applicant submits that BROOME et al. lacks any disclosure of *an aspherical surface having a diffraction lens structure formed thereon*, and that therefore BROOME et al. can not possibly be viewed as anticipating any of the present claims. Applicant respectfully submits that the rejections based upon BROOME et al. are clearly improper for at least this reason, and respectfully requests that they be withdrawn.

Although Applicant believes that the lack of *an aspherical surface having a diffraction lens structure formed thereon* in the system of BROOME et al. clearly warrants the withdrawal of the rejections based thereon, Applicant also points out the following further distinctions between the claimed subject matter and the disclosure of BROOME et al.

Each of independent claims 1, 6 and 7 sets forth an objective lens which includes *an aspherical surface divided into an effective area and an outer area outside the effective area, wherein a light beam passing through the effective area forms a beam spot, and a light beam passing through the outer area is diffused*. Applicant submits that BROOME et al. lacks any disclosure of *an aspherical surface divided into an effective*

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area and an outer area outside the effective area, wherein a light beam passing through the effective area forms a beam spot, and a light beam passing through the outer area is diffused.

Applicant notes that the zones 25 and 26 of BROOME et al. are both part of the *effective area*, insofar as that term is defined and used throughout the present disclosure. While Applicant acknowledges that limitations must not be read into the claims from the specification, it is likewise true that claim terminology must be read in the context of the disclosure of which it is a part in order to properly define the scope and meaning of the claims. The term *effective area* is used throughout the present disclosure to refer to that portion of the lens surface through which light which forms a beam spot passes during normal use of the objective lens, while the term *outer area* is used throughout the present disclosure to refer to that portion of the lens surface which is outside of the effective area (i.e., light passing therethrough does not form part of a beam spot during normal use of the objective lens). However, light which forms a beam spot passes through both zones 25 and 26 of BROOME et al. during normal use of the objective lens.

Rather than defining an *effective area* and *outer area* of the lens surface, the zones 25 and 26 of BROOME et al. are instead comparable to the common area RC and exclusive area RE discussed in the present disclosure (note Figures 1A and 1B). For CD format disks, a beam spot is formed by relatively longer wavelength light, with a

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relatively smaller NA, which passes through zone 25 of BROOME et al. and common area RC of the present disclosure. For DVD format disks, a beam spot is formed by relatively shorter wavelength light, with a relatively larger NA, which passes through both zones 25 and 26 of BROOME et al., and both common area RC and exclusive area RE of the present disclosure. However, it is clear that zone 26 of BROOME et al. does not constitute an *outer area* as recited in the claims, since at least the relatively shorter wavelength light passes therethrough, without being *diffused*, to form part of the beam spot during use for DVD format disks. Accordingly, it is clear that zone 26 of BROOME et al. should instead be considered part of the *effective area* of the lens surface.

Further, regardless of whether there is any change in spherical aberration between the zones 25 and 26 of BROOME et al., as the Examiner contends, there is clearly no disclosure in BROOME et al. that there is a predetermined gap between spherical aberration of light passing through zone 26 and spherical aberration of light passing through an *outer area* outside of zone 26, as recited in claims 1 and 10. As noted in the present disclosure, this provision of such a gap between spherical aberrations avoids the need to provide a separate aperture stop member (paragraphs [0010] and [0011]).

Applicant submits that dependent claims 2-5 and 8-12, which are at least patentable due to their dependency from claims 1 and 7 for the reasons noted above,

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recite additional features of the invention and are also separately patentable over the prior art of record.

In regard to the rejection of claims 3, 4, 11 and 12 under 35 U.S.C. § 103 over BROOME et al., Applicant submits that the Examiner's assertion of obviousness is inappropriate, particularly where, as here, the primary reference does not disclose any gap whatsoever. The Examiner's assertion of obviousness as related to optimum values applies only in a situation where it is known in the prior art that the parameter that is being optimized is a significant parameter. In the present situation, this is not true and thus the Examiner's reliance on *In re Boesch* is misplaced.

Accordingly, Applicant respectfully submits that the rejections based on BROOME et al. are improper for at least the above-noted reasons. Applicant respectfully requests reconsideration and withdrawal of the rejections based on BROOME et al., and an early indication of the allowance of claims 1-12.

YOO et al. (U.S. Patent No. 6,043,912)

As noted above, each of independent claims 1, 6 and 7 sets forth an objective lens which includes *an aspherical surface having a diffraction lens structure formed thereon*. Applicant submits that YOO et al. lacks any disclosure of *an aspherical surface having a diffraction lens structure formed thereon*.

The disclosure of YOO et al. is, for the most part, directed to embodiments in which a holographic ring lens 35 is provided separately from an objective lens 36. Figure 7 of YOO et al. depicts the only embodiment in which a holographic ring structure is formed integrally on a surface of an objective lens. However, Applicant submits there no disclosure in YOO et al. that the holographic ring structure is formed on an *aspherical surface* of the objective lens. Contrary to the Examiner's position stated on the first three lines of page 9 of the Official Action, Figure 7 does not clearly show an aspherical surface upon which the holographic ring structure is formed. In fact, Figure 7 appears to depict that the surface upon which the holographic ring structure is formed as spherical, particularly in comparison to the shape of the lens surfaces of objective lens 36 as depicted in Figures 3 and 4A. However, it is at least clear that there is no explicit teaching in YOO et al. that the objective lens surface upon which the holographic ring structure is formed is *aspherical*. Further, the lack of explicit disclosure of this feature in YOO et al. does not authorize the Examiner to impute it into the drawing.

Accordingly, Applicant submits that YOO et al. lacks any disclosure of *an aspherical surface having a diffraction lens structure formed thereon*, and that therefore YOO et al. can not possibly be viewed as anticipating any of the present claims. Applicant respectfully submits that the rejections based upon YOO et al. are clearly improper for at least this reason, and respectfully requests that they be withdrawn.

Although Applicant believes that the lack of *an aspherical surface having a diffraction lens structure formed thereon* in the system of YOO et al. clearly warrants the withdrawal of the rejections based thereon, Applicant also points out the following further distinctions between the claimed subject matter and the disclosure of YOO et al.

Each of independent claims 1, 6 and 7 sets forth an objective lens which includes *an aspherical surface divided into an effective area and an outer area outside the effective area, wherein a light beam passing through the effective area forms a beam spot, and a light beam passing through the outer area is diffused*. Applicant submits that YOO et al. lacks any disclosure of *an aspherical surface divided into an effective area and an outer area outside the effective area, wherein a light beam passing through the effective area forms a beam spot, and a light beam passing through the outer area is diffused*.

Applicant notes that the regions 353 and 355 of YOO et al. are both part of the *effective area*, insofar as that term is defined and used throughout the present disclosure. While Applicant acknowledges that limitations must not be read into the claims from the specification, it is likewise true that claim terminology must be read in the context of the disclosure of which it is a part in order to properly define the scope and meaning of the claims. As noted above, the term *effective area* is used throughout the present disclosure to refer to that portion of the lens surface through which light which forms a beam spot passes during normal use of the objective lens, while the term *outer area* is used

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throughout the present disclosure to refer to that portion of the lens surface which is outside of the effective area (i.e., light passing therethrough does not form part of a beam spot during normal use of the objective lens). However, light which forms a beam spot passes through both regions 353 and 355 of YOO et al. during normal use of the objective lens.

Rather than defining an *effective area* and *outer area* of the lens surface, the regions 353 and 355 of YOO et al. are instead comparable to the common area RC and exclusive area RE discussed in the present disclosure (note Figures 1A and 1B). For CD format disks, a beam spot is formed by relatively longer wavelength light, with a relatively smaller NA, which passes through region 353 of YOO et al. and common area RC of the present disclosure. For DVD format disks, a beam spot is formed by relatively shorter wavelength light, with a relatively larger NA, which passes through both regions 353 and 355 of YOO et al., and both common area RC and exclusive area RE of the present disclosure. However, it is clear that region 355 of YOO et al. does not constitute an *outer area* as recited in the claims, since at least the relatively shorter wavelength light passes therethrough, without being *diffused*, to form part of the beam spot during use for DVD format disks. Accordingly, it is clear that region 355 of YOO et al. should instead be considered part of the *effective area* of the lens surface.

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Further, regardless of whether there is any change in spherical aberration between the regions 353 and 355 of YOO et al., as the Examiner contends, there is clearly no disclosure in YOO et al. that there is a predetermined gap between spherical aberration of light passing through region 355 and spherical aberration of light passing through an *outer area* outside of region 355, as recited in claims 1 and 10. As noted in the present disclosure, this provision of such a gap between spherical aberrations avoids the need to provide a separate aperture stop member.

Applicant submits that dependent claims 2-5 and 8-12, which are at least patentable due to their dependency from claims 1 and 7 for the reasons noted above, recite additional features of the invention and are also separately patentable over the prior art of record.

In regard to the rejection of claims 3, 4, 11 and 12 under 35 U.S.C. § 103 over YOO et al., Applicant submits that the Examiner's assertion of obviousness is inappropriate, particularly where, as here, the primary reference does not disclose any gap whatsoever. The Examiner's assertion of obviousness as related to optimum values applies only in a situation where it is known in the prior art that the parameter that is being optimized is a significant parameter. In the present situation, this is not true and thus the Examiner's reliance on *In re Boesch* is misplaced.

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Accordingly, Applicant respectfully submits that the rejections based on YOO et al. are improper for at least the above-noted reasons. Applicant respectfully requests reconsideration and withdrawal of the rejections based on YOO et al., and an early indication of the allowance of claims 1-12.

SUMMARY AND CONCLUSION

In view of the foregoing, it is submitted that none of the references of record, considered alone or in any proper combination thereof, anticipate or render obvious Applicant's invention as recited in claims 1-12. The applied references of record have been discussed and distinguished, while significant claimed features of the present invention have been pointed out.

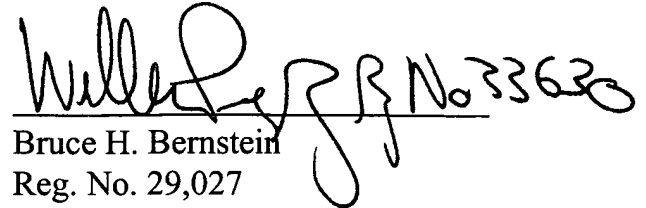
Accordingly, reconsideration of the outstanding Official Action, and allowance of the present application and all of the claims therein are respectfully requested and now believed to be appropriate.

Applicant has made a sincere effort to place the present application in condition for allowance and believes that he has now done so.

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Should there be any questions, the Examiner is invited to contact the undersigned
at the below listed number.

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